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(54) **Docking station for mobile telecommunication handset**

(57) Docking station for at least one mobile or cordless telecommunication handset (3), particularly a phone handset, said docking station comprising a base (1) able to receive the handset (3), characterised in that the base (1) is adapted to receive simultaneously a plurality of mobile telecommunication handsets (3) and comprises therefor a plurality of locations (2) for a handset (3), the docking station comprising a public display (4) and an interface processor (5) between each location (2) of the base (1) and the display (4), said interface processor (5) comprising means for detecting an incoming call for a handset (3) docked in the location (2) and for controlling the display (4) in order to notify this detection.

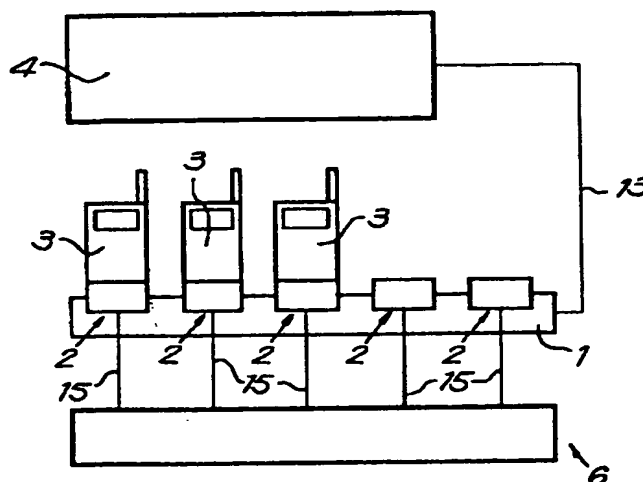


Fig. 1

Description

[0001] This invention relates to a docking station for at least one mobile or cordless telecommunication handset, particularly a phone handset, said docking station comprising a base able to receive the handset.

[0002] A known docking station of this kind is a single cordless phone handset loading station for loading the batteries of a single handset.

[0003] Now that mobile telephone, and more particularly GSM, has become popular and more and more people carry a mobile telephone handset, it sometimes occurs that the ringing of the mobile telephone handset can be disturbing, for example during a meeting or in a restaurant.

[0004] Some restaurants already collect GSM handsets on entry and notify their owner of an incoming call. This solution however requires a person watching continuously the collected handsets and the displacement of a person for notifying, for example by means of a board, a called handset owner.

[0005] The aim of the invention is to provide a docking station which not only permits docking but also permits to avoid the disturbance by ringing of a telecommunication handset without the above mentioned drawbacks, this without requiring the intervention of personnel.

[0006] This aim is obtained by the fact that the base of the docking station is adapted to receive simultaneously a plurality of mobile telecommunication handsets and comprises therefor a plurality of locations for a handset, the docking station comprising a public display and an interface processor between each location of the base and the display, said interface processor comprising means for detecting an incoming call for a handset docked in the location and for controlling the display in order to notify this detection.

[0007] These means may be such that the display displays information about the detected incoming call in the form of a number allotted to the location of the called handset or/and custom information such as the handset identification number (that is the "called ID number") or/and the name of the handset owner, and/or even an identification of the caller, e.g. the "caller ID number".

[0008] The docking station can comprise a power supply for handset battery recharging.

[0009] In this case the batteries of the handsets can be loaded during docking.

[0010] Other details and advantages of the invention will be made clear in the following description of a docking station according to the invention, given as an example only and with reference to the accompanying drawings, wherein:

figure 1 is a schematic view of a docking station according to the invention;

figure 2 is a block diagram of a part of the docking station of figure 1.

[0011] The docking station schematically represented in the figures comprises essentially a base 1 comprising a number of locations 2 able to receive a number of GSM handsets 3, a public display 4, an interface processor 5 between any of the possible handsets 3, this is between each of the locations 2 and the display 4, and a DC power supply 6 to any of said locations 2.

[0012] In the represented example, the number of locations 2 is five, while in three of them a GSM handset 3 has been placed, but it is obvious that the number of locations 2 and consequently possible handsets 3 is not limited to these numbers.

[0013] Each of the interface processors 5 comprise means to detect an incoming call for a possible handset 3 docked in the location 2 to which the interface processor 5 belongs and for controlling the display 4 in such way that it displays information about this incoming call in the form of a number allotted to the location 2 of the called handset 3 or/and custom information such as the identification number of the handset 3, that is the "called ID number", or/and the name of the handset owner, and/or even an identification of the caller, e.g. the "caller ID number".

[0014] These means comprise, besides the required electronics, a connector 7 at the corresponding location 2 permitting a connection with an output port 8 of the handset 3 possibly docked in this location 2, either directly or by means of an adapter, for instance an interface card such as the ones used for connection to a computer or facsimile apparatus.

[0015] The output port 8 of a GSM handset 3 is connected to a handset interface processor 9 located inside the handset 3, which processor 9 is connected to the SIM card reader 10 and a control unit 11.

[0016] The interface processors 5 are connected to the display 4 by means of electronics 12 mounted in the base 1 and a wiring 13 or a transmitter-receiver for wireless transmission.

[0017] The display 4 may be a classical display with LED's or a monitor.

[0018] The power supply 6 comprises an AC/DC converter-rectifier 14 mounted in the base 1 and a connection 15 to two terminals 16 on each location 2, said terminals 16 permitting to contact directly or by means of an adapter the terminals 17 of the rechargeable battery 18 of the handset 3 docked in said location 2.

[0019] In a space wherein the ringing of the handset 3 could be disturbing, for instance a meeting room or a restaurant, a docking station as described herebefore is placed, with the base 1 preferably at the entrance and the display 4 at a place visible from the whole space.

[0020] Each person carrying a GSM handset 3 entering the space puts by his own or by the intermediary of a servant, his handset 3 in a free location 2 of the docking station.

[0021] By doing this the output port 8 of the handset 3 is automatically connected to the connector 7 of an interface processor 5 while its battery terminals 17 are

connected to the power supply terminals 16 at the location 2.

[0022] When his handset 3 is called, said interface processor 5 detects the incoming call and sends a signal to the display 4 which displays information about the call, for instance by displaying the handset ID number, whereafter the handset owner can take his handset 3 at the docking station for answering the call.

[0023] When two or more docking handsets 3 are receiving an incoming call, the display 4 will show information about the two simultaneous calls.

[0024] One or more supplementary displays 4, situated for instance on distant locations may be connected to the locations 2 of the base 1.

[0025] The invention is not limited to GSM handsets 3, but can be applied with all kind of mobile communication handsets, such as DECT handsets or beepers.

Claims

1. Docking station for at least one mobile or cordless telecommunication handset (3), particularly a phone handset, said docking station comprising a base (1) able to receive the handset (3), characterised in that the base (1) is adapted to receive simultaneously a plurality of mobile telecommunication handsets (3) and comprises therefor a plurality of locations (2) for a handset (3), the docking station comprising a public display (4) and an interface processor (5) between each location (2) of the base (1) and the display (4), said interface processor (5) comprising means for detecting an incoming call for a handset (3) docked in the location (2) and for controlling the display (4) in order to notify this detection.
2. Docking station according to claim 1, characterised in that said means are such that the display notifies an incoming call by giving at least one of the following informations: a number allotted to the location (2) of the called handset (3), custom information such as an handset identification number or/and the name of the handset owner, and an identification of the caller.
3. Docking station according to claim 1 or 2, characterised in that said means comprise, besides the required electronics, a connector (7) at the corresponding location (2) permitting a connection with an output port (8) of the handset (3) possibly docked in this location (2).
4. Docking station according to either one of the preceding claims, characterised in that the interface processors (5) are connected to the display (4) by means of electronics (12) mounted in the base (1) and either by wiring (13) or wireless by a transmitter-receiver.
5. Docking station according to either one of the preceding claims, characterised in that it comprises a power supply (6) for handset battery (18) recharging.

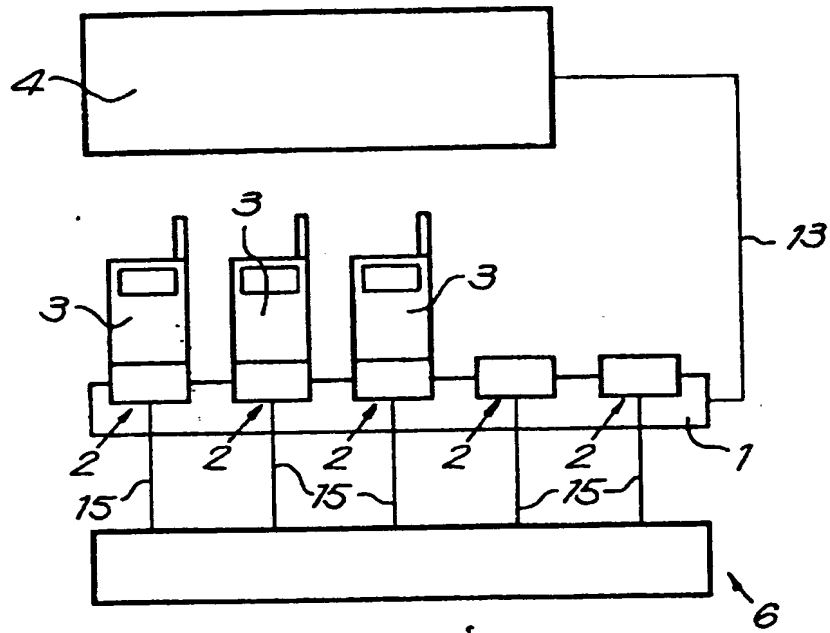


Fig. 1

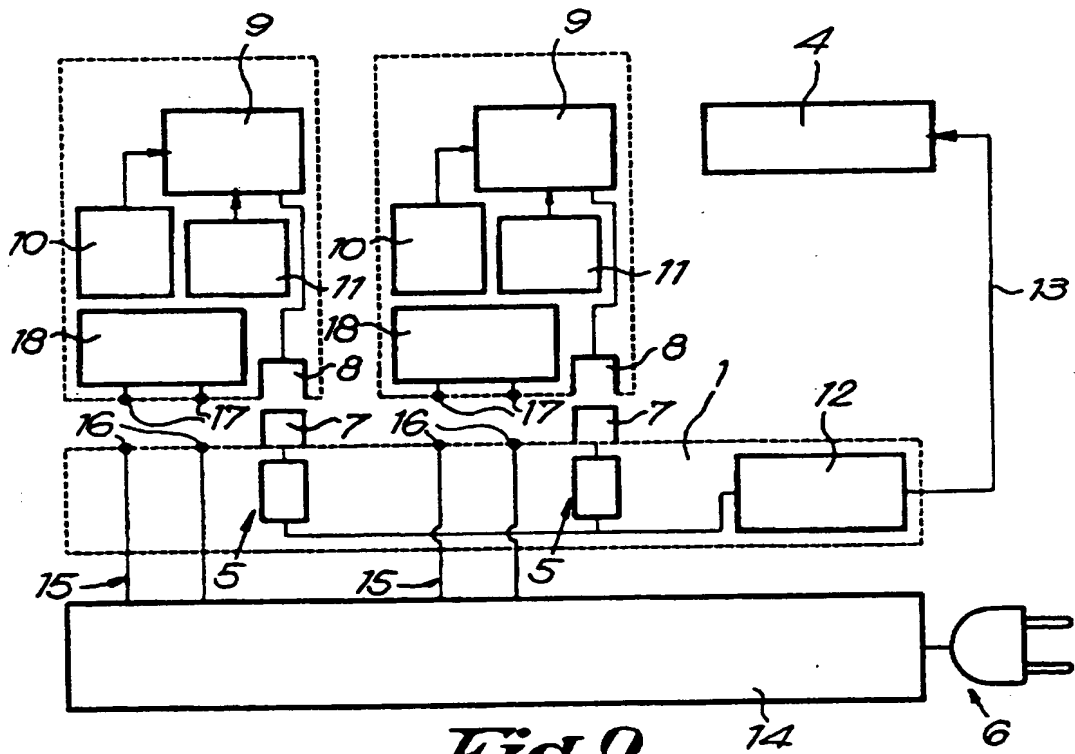


Fig. 2



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EUROPEAN SEARCH REPORT

Application Number
EP 97 40 2938

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	EP 0 304 998 A (PHILIPS NV) 1 March 1989 * claims 1,4; figure 1 *	1	H04M1/72 H04B1/38
A	GB 2 264 613 A (PIONEER ELECTRONIC CORP) 1 September 1993 * page 5, line 14-21; figure 1 * * page 6, line 24 - page 7, line 8 * * page 13, line 13-15 * * page 15, line 24-26; figure 4 * * claim 1 *	1	
A	KING J ET AL: "HOLSTER WITH SECONDARY LCD AND ELECTRONICS USED TO STORE AND/OR DISPLAY MESSAGES" MOTOROLA TECHNICAL DEVELOPMENTS, vol. 11, 1 October 1990, page 137 XP000178667	1	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			H04M G08B H04B H04Q
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 2 June 1998	Examiner De Biolley, L
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